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ENVIRONMENT DEPARTMENT

Ground Water Quality Bureau

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Memorandum

To: **LaDonna Turner, Site Assessment Manager**
Technical and Enforcement Branch
U.S. Environmental Protection Agency, Region 6

Date: **September 1, 2009**

From: **Dana Bahar, Manager, Superfund Oversight Section**
Ground Water Quality Bureau, New Mexico Environment Department.

Subject: **Pre-CERCLIS Screening Assessment of T-20 Mine, McKinley County, New Mexico: Further action under CERCLA recommended**

Site name	T-20	**Street address**	not applicable		
City	not applicable	**State**	New Mexico	**Zip code**	not applicable
County	McKinley				
Latitude	35° 20’ 27.22”	**Longitude**	107° 49’ 13.43”		

Site physical description: The T-20 Mine currently comprises piles of limestone waste materials that are deposited along surface drainages, and 2 collapsed mineshafts. An area of gridded drill holes is located adjacent to one of the mineshafts.

Site identification: Potential alluvial ground water contamination within the Grants Mineral Belt was identified because background standards established for the contaminants of concern for ongoing remedial action associated with the Homestake Mining Company NPL site (CERCLIS NMD0007860935) are generally higher than Maximum Contaminant Levels (MCLs). The New Mexico Environment Department (NMED) conducted sampling of private residential wells in subdivisions located in the vicinity of the HMC site, and found that the majority had one or more contaminant concentrations exceeding MCLs.

Site summary: Observations made during a July 2, 2009 site visit are shown on accompanying figure. Limestone waste materials associated with the site generally have elevated radioactivity compared to background (highest radioactivity=859 counts per second [cps]; background=15-50 cps from measurements taken at this and nearby sites). Contamination of vicinity soils and surface drainages by precipitative erosion and wind

dispersion comprise the primary contaminant pathways that may be associated with this site. Additionally, site runoff of contaminated wastes may impact ground water quality either through seepage through alluvium or by direct entry to the subsurface via the collapsed shafts.

Targets: Residences are located near junction State Hwy. 605 and 509, approximately 2.25 air-miles northeast of the Site. Another residence is located along Haystack Road approximately 1.5 air-miles southwest of the Site. Other potential targets may include cattle and wildlife.

Closest well sampled to date: irrigation well SMC-22 (1.1 air-miles; 48.2 µg/l total uranium in 2009 sampling [total uranium Maximum Contaminant Level=30 µg/l])

Site ownership and Potential Responsible Parties: The U.S. Bureau of Land Management owns the surface rights of the Site. Bailey and Fife reportedly last operated the mine in 1968.

File review: NMED staff reviewed the following files:

- Database compiled by Mining and Minerals Division of the New Mexico Energy, Minerals, and Natural Resources Department (07/20/2007).
- Anderson, Orin J., 1980. "Abandoned or inactive uranium mines in New Mexico".
- Golder Associates, 2009. "Findings of Barbara J Sites, Abandoned uranium mine lands pilot study conducted March—May 2009." Draft Technical Memorandum.
- McLemore, Virginia T. and William L. Chenoweth, 1991. "Uranium mines and deposits in the Grants district, Cibola and McKinley Counties, New Mexico." New Mexico Bureau of Mines and Mineral Resources Open-file report 353.
- Rappaport, Linda, "Uranium deposits of the Poison Canyon ore trend, Grants District," in "Geology and technology of the Grants Uranium Region, 1963. State Bureau of Mines and Mineral Resources.
- U.S. Geological Survey, 1997. "Gallup quadrangle NURE HSSR study." OFR-97-492.

Site reconnaissance: NMED staff conducted a Site reconnaissance on July 2, 2009.

Recommendations: A release of CERCLA hazardous substances has been documented at the site. NMED recommends further investigation under CERCLA to assess the risk posed by the site using the Hazard Ranking System.

NMED recommends that the investigation include the following:

1. Sample sediments along drainages to characterize extent of Site-derived waste dispersion.
2. Investigate and characterize ground water impacts.

In addition NMED recommends the following actions be performed to address immediate threats to public health and the environment:

1. Remove waste with elevated radioactivity.
2. Plug and seal collapsed shafts.

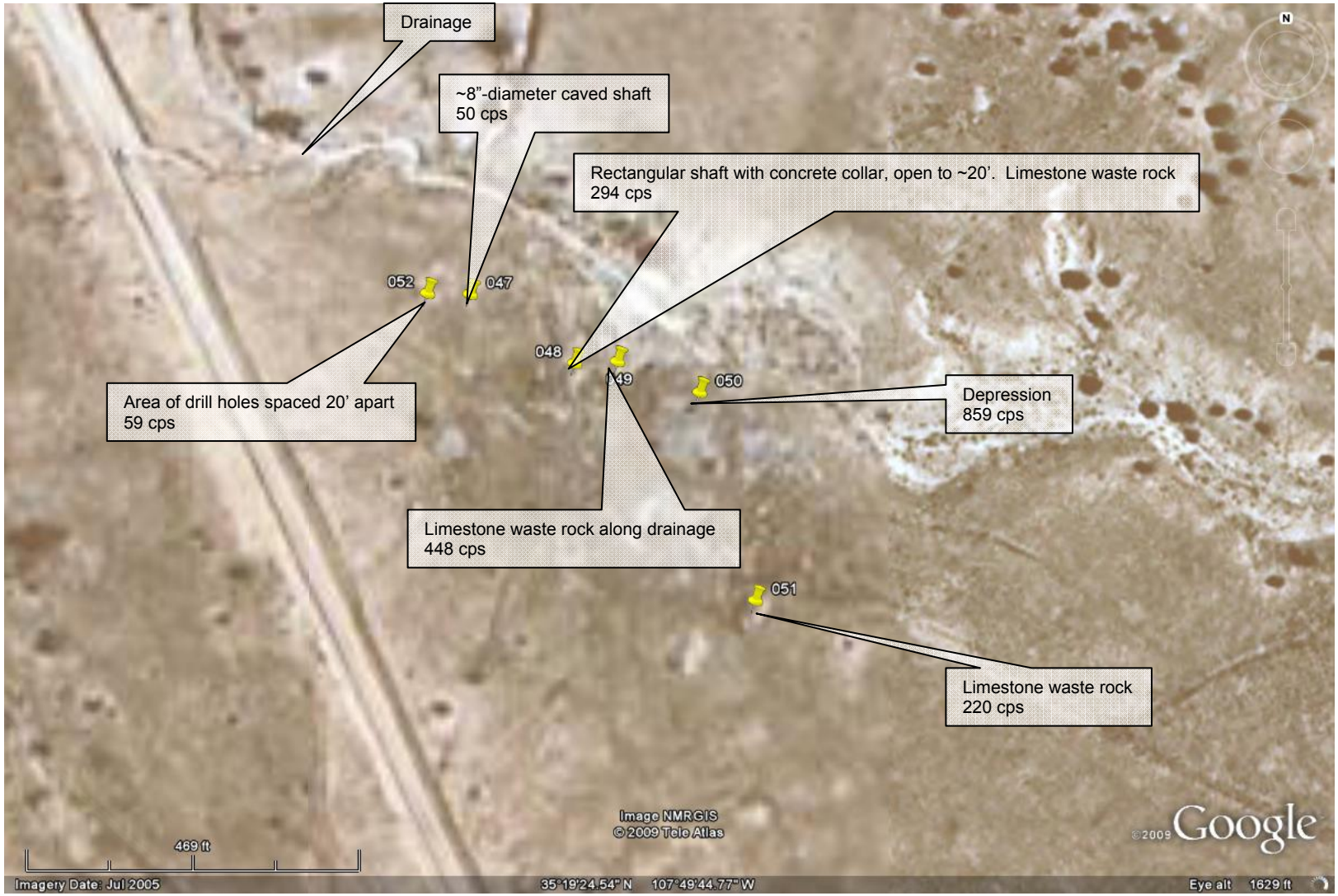

Figure 1: T-20 Mine—measurements taken on July 2, 2009